



# TNRCC REGULATORY GUIDANCE

Municipal Solid Waste Division

RG-1

September 1996

## SUBJECT: Medical Waste Regulations in Texas

Shortly after Acquired Immune Deficiency Syndrome (AIDS) became an issue of great public awareness, and before any "wash ups" of medical waste occurred on the east coast, the State of Texas began to address the problem of medical waste disposal.

### DEFINITIONS

The term "special waste from health-care-related facilities" (SWFHCRF) is used to define waste regulated by state agencies. Only five categories of waste are regulated:

- animal waste from animals intentionally exposed to pathogens,
- bulk human blood and blood products,
- pathological waste,
- microbiological waste, and
- sharps.

The criteria for selection of these categories were based primarily on environmental concerns rather than occupational concerns. A chain of events is necessary to produce disease from contact with medical waste

1. the waste must contain a viable (capable of living/reproducing) human pathogen (disease producing organism);
2. a portal of entry must exist for an organism to enter the body;
3. there must be a sufficient number of organisms entering this portal of entry to produce an infection; and
4. there must be a susceptible host, and if *infection* does occur, *disease* may or may not occur.

The items selected for regulation were deemed to have the highest potential for disease production provided all of the required events took place. Sharps, due to their inherent ability to provide a portal of entry, must be managed properly regardless of their contamination status.

The Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen Standard also defines regulated medical waste. This definition applies to waste within a facility. It is considerably more all-encompassing than the realm of SWFHCRF. This is due to the fact that "universal precautions" must be observed in facilities where actual physical contact with potentially infectious materials can be expected to occur on a regular basis.

Texas regulations are based on the idea that waste properly packaged and labeled at the point of generation reduces the amount of waste that needs to be handled by special means. Compliance with OSHA and Texas regulations can be easily achieved by simply re-evaluating what waste goes where at the point of generation.

OSHA only requires a waste container marked with the BIOHAZARD symbol and word, although "red bags" **may** be substituted. If these bags are used to collect medical waste that is not SWFHCRF, their identity should be changed so waste handlers will not be alarmed. Designation of the BIOHAZARD container should be documented in the Exposure

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Control Plan. The specified receptacle may then be lined with a regular trash bag, which may be disposed of as routine municipal solid waste if it does not contain *any* items of SWFHCRF.

## TREATMENT METHODS

The Texas Department of Health retains authority to define what waste will be regulated and how it may be treated. These rules, which were updated in December 1994, can be found in Title 25 Texas Administrative Code Sections 1.131–1.137. Approved methods of treatment of SWFHCRF are listed under Section 1.133. In addition, a listing of approved alternate treatment technologies is available from the Texas Department of Health, Occupational Health Division, Industrial Hygiene Branch, 1100 W. 49th Street, Austin, TX 78756, telephone (512)834-6600.

There are currently six approved treatment methods:

- steam disinfection,
- chlorine disinfection/maceration,
- chemical disinfection,
- moist heat disinfection,
- thermal inactivation, and
- incineration.

Specific categories of SWFHCRF may be treated by specific methods. Chlorine disinfection/maceration and moist heat disinfection by definition require shredding of the waste during or shortly after treatment. Other parameters including such things as time, temperature and pressure requirements are specified for other methods.

The U.S. Environmental Protection Agency (EPA) requires registration of chemical disinfectants (except for household bleach or 70 percent isopropyl alcohol). EPA also requires that liquid disinfectants be drained from treated wastes. Approval from the Office of Air Quality of the Texas Natural Resource Conservation Commission (TNRCC) is required for incineration processes. That office may be contacted at (512) 239-1265.

Any generator that produces more than 50 pounds per calendar month of SWFHCRF and that treats all or part of the wastes on-site is required to perform routine performance monitoring based on the volume of SWFHCRF generated monthly and the type of treatment process utilized.

Subchapter Y of Title 30 Texas Administrative Code (TAC) Chapter 330 defines rules for medical waste management, disposal, transportation, collection and storage. These rules were also updated in December 1994 and can be found in Title 30 TAC Sections 330.1001–1010. The responsibility for these regulations rests with the TNRCC's Office of Waste Management. Section 1004 relates exclusively to generators of SWFHCRF.

## ON-SITE VS. OFF-SITE TREATMENT

For purposes of this discussion, the term "on-site" means a facility consisting of contiguous structures or contiguous properties, or a combination of structures operated by a single entity operating under a license issued by the Texas Department of Health.

A frequently encountered situation involves the waste disposal activities of a hospital that owns a separate building containing physicians' offices. The recent rule update (effective December 1994) broadened the definition of the term on-site. Facilities that meet the criteria specified under the definition in Title 30 TAC Section 330.1004(f) may be able to handle such waste as their own "on-site generated" waste. **If the hospital accepts and processes waste that was generated off-site, then that hospital then takes on the role of a commercial processor and must be permitted as a commercial facility.**

### On-Site Treatment

Records must be kept for waste treated on-site to include the date, amount of waste, method of treatment, name and initials of the person performing treatment, and for generators of more than 50 pounds per month, a written procedure for the operation and testing of any equipment or chemicals used. Records must be maintained for three years and must be available for review on request by TNRCC inspectors.

*Treated* wastes may be disposed of as routine municipal solid waste provided any markings identifying the waste as SWFHCRF are covered with a color-coded disposable container or a label identifying the waste as "treated." Recognizable human body parts, tissues, fetuses, organs, and the products of spontaneous or induced abortions ***must not*** be disposed of in a municipal solid waste landfill. **These items must be disposed of in accordance with the provisions of 25 TAC Section 1.136(a)(4) relating to Approved Methods of Treatment and Disposition.**

Sharps must be placed in containers designed for their disposal. Treated or unused sharps, if not encapsulated, must be segregated from the regular solid waste stream and transported without compaction to the landfill. If the contents of a sharps container are completely encased in an encapsulating matrix and can withstand an applied pressure of 40 pounds per square inch, the sharps container may be disposed of with routine municipal solid waste. Treated and/or encapsulated sharps containers must be labeled as such.

### Off-Site Treatment

Wastes to be transported off-site for treatment must be packaged securely in a bag of specified strength requirements and subsequently boxed in a rigid outer container also meeting specified strength requirements. The outer container must be labeled twice in English and twice in Spanish with the words "CAUTION, contains medical waste that may be biohazardous." Sharps must be placed in marked and puncture-resistant containers designed for their disposal.

Ultimately, the generator's primary responsibility whenever allowing *untreated* SWFHCRF to be transported off-site is to determine that the waste is being released to a currently registered transporter and to obtain a signed receipt for each shipment of regulated waste.

### Transport of Medical Waste

Section 1005 of Subchapter Y addresses the requirements applicable to any person who transports *untreated* medical waste. This section specifies all aspects of vehicle, financial assurance, registration, reporting, and fee requirements.

Certain exemptions exist for generators who choose to transport their own untreated medical waste:

- Generators of less than 50 pounds per month may transport their own waste to a registered medical waste collection station, transfer station, storage facility, or processing facility without meeting transporter requirements.
- Generators of more than 50 pounds per month may still transport their own waste provided they meet all transporter requirements except registration.
- Generators located contiguous to a permitted processing facility may transport their own untreated waste without complying with packaging requirements provided the waste is identified as "untreated" and is not transported over a public roadway.

Transfer of shipments of untreated medical waste must take place only at and on the premises of a permitted transfer station, storage facility, or processing facility. In case of vehicle malfunction or accident, the waste may be transferred to another vehicle, and the TNRCC must be notified within five days in the case of vehicle malfunction or one day in the case of an accident. Interstate transportation requires the same conditions as for transporters operating within Texas, except that only the vehicle requirements apply to transporters of waste that neither originates nor terminates in Texas.

A licensed hospital may act as a medical waste collection station, may be registered in counties of less than one million population, and may accept waste only from generators of less than 50 pounds per month that transport their own untreated waste.

*All* medical waste must be stored in a secure manner and location that affords protection from theft, vandalism, inadvertent human or animal exposure, rain, water, and wind. It must be managed so it will not provide a breeding place or food for insects or rodents and will not generate noxious odors. A permit is required for the storage of medical waste generated off-site except on the premises of a permitted processing facility or medical waste collection station. Such waste must be maintained at a temperature of 45 degrees Fahrenheit or less if held for more than 72 hours. For registered transporters whose base of operations is located more than 200 miles from a permitted processing facility, untreated medical waste may be held up to one week without refrigeration. Medical waste generated off-site and held for more than 14 days is considered to be in storage, and authorization from TNRCC's executive director is required.

A new section was added to Subchapter Y in the recent update. Section 330.1010 allows for treatment of SWFHCRF on-site on mobile vehicles by persons who are registered with the TNRCC to use a treatment method approved for the given type of waste (see For More Information).

## **FOR MORE INFORMATION**

TNRCC's Office of Waste Management holds primary responsibility for enforcement of these rules. Call the Municipal Solid Waste Division's Permits Section at (512) 239-6781 to:

- obtain more information about disposal of SWFHCRF in municipal solid waste landfills;
- register as a transporter, a transfer station, or a medical waste collection station;
- register to treat SWFHCRF on a mobile vehicle; or
- seek a permit to treat medical waste on a commercial basis.